II. REMARKS

Upon entry of this Amendment, claims 1 and 8 to 12 will be pending. Claim 1 is amended as suggested by the Examiner. Office Action at page 30. No new matter is added.

The Applicants originally submitted two copies of Table 1 on CD-ROM along with the application as filed. A copy of a postcard receipt date-stamped October 31, 2000 by OIPE is attached hereto as Exhibit A. However, at the request of the Examiner (*Id.* at page 1), the Applicants submit herewith a copy of the originally filed CD-ROM.

1. Claim Rejection under 35 U.S.C. § 101:

Claims 1 and 8 to 12 were rejected under 35 U.S.C. § 101, because the claimed invention allegedly "is not supported by either a specific or substantial asserted utility or a well-established utility." *Id.* at page 2. The Applicants respectfully traverse this rejection.

The Examiner admits "that SEQ ID NO: 7212 does contain a region of significant homology with a known molecule, specifically, with a rice cDNA encoding **gibberellin 20-oxidase** (GENBANK Accession No. U50333, February 1997)." *Id.* at page 4. However, the Examiner does not accept this indication of utility because "an alignment of this cDNA with SEQ ID NO: 7212 reveals (in addition to multiple mismatches) multiple frameshifts within the coding sequence of the cDNA ... ". Therefore, she concludes that "the prior art indicates that SEQ ID NO: 7212 and the prior art cDNA **do not** in fact **encode** the same protein. Thus the prior art does not provide any evidence of a well-established utility for SEQ ID NO: 7212." *Id.*

The Applicants respectfully submit that the Examiner has mis-applied the law. As the Examiner is aware, "a 'rigorous correlation' need not be shown in order to establish practical utility; 'reasonable correlation' is sufficient." *See Fujikawa v. Wattanasin*, 93 F.3d 1559, 1565,

39 U.S.P.Q.2d 1895, 1900 (Fed. Cir. 1996), emphasis added. "An Applicant can establish this reasonable correlation by relying on statistically relevant data documenting the activity of the compound or composition, arguments or reasoning, documentary evidence, or any combination thereof." M.P.E.P. § 2107.03, at page 2100-43. The Examiner admits that SEQ ID NO: 7212 has significant homology with gibberellin 20-oxidase. Office Action at page 4. In other words, the Examiner admits that the specification provides at least a reasonable correlation, which is all that the Applicants need establish.

The Applicants note that Table 1 of the specification also provides homology of SEQ ID NO: 7212 with other proteins including 30S Ribosomal protein, Chloroplast Precursor protein, gibberellin C-20 oxidase, and several receptor protein kinase-like proteins, and provides the positions of the encoding sequences of these proteins. *See, e.g.,* specification at page 37, line 5 through page 42, line 6, Table 1, and the sequence listing. The Examiner has not addressed the utility of SEQ ID NO: 7212 based on these homologies.

In conclusion, the Applicants have established, and the Examiner admits, that the claimed SEQ ID NO: 7212 has significant homology, for example with gibberellin 20-oxidase. It is well known that gibberellin 20-oxidase is a multifunctional enzyme involved in gibberellin biosynthesis. *See, for example,* Lange *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* **91(18)**, 8552 – 8556, 1994. In other words, gibberellin 20-oxidase has utility. The Applicants need only establish a single utility to satisfy 35 U.S.C. § 101, and have done so with sufficient specificity and reasonable correlation in the present application. Therefore, the rejection of claims 1 and 8 to 12 under 35 U.S.C. § 101 is incorrect and the Applicants respectfully request its withdrawal.

2. Claim Rejection under 35 U.S.C. § 112 – Enablement:

Claims 1 and 8 to 12 were rejected under 35 U.S.C. § 112, first paragraph, "since the claimed invention is not supported by either a specific or substantial asserted utility or a well-established utility ... one of ordinary skill in the art clearly would not know how to use the claimed invention." Office Action at page 18. The Applicants respectfully traverse this rejection and contend that this rejection has been overcome by the arguments set forth above with respect to the rejection under 35 U.S.C. § 101. Consequently, the rejection under 35 U.S.C. § 112, first paragraph, is improper and the Applicants respectfully request reconsideration and withdrawal of this rejection.

3. Claim Rejection under 35 U.S.C. § 112 – Description:

Claims 1 and 8 to 12 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly "failing to comply with the written description requirement." Office Action at page 21. The Applicants respectfully traverse this rejection.

The Applicants reiterate that the purpose of the written description requirement is to ensure that the inventor had possession of the claimed subject matter, *i.e.*, to ensure that the inventors actually invented what is claimed. *Gentry Gallery Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479, 45 U.S.P.Q.2d 1498, 1503 (Fed. Cir. 1998); *Lockwood v. American Airlines*, 107 F.3d 1565, 1572, 41 U.S.P.Q.2d 1961, 1966 (Fed. Cir. 1997); *In re Alton*, 76 F.3d 1168, 1172, 37 U.S.P.Q.2d 1578, 1581 (Fed. Cir. 1996). In accordance with this purpose, the Applicants need not "describe," in the sense of 35 U.S.C. § 112, all things that are encompassed by the claims. To contend otherwise would contradict established jurisprudence, which teaches that a patent may be infringed by technology developed after a patent issues. *United States Steel Corp. v.*

Phillips Petroleum Co., 865 F.2d 1247, 1251, 9 U.S.P.Q.2d 1461, 1464 (Fed. Cir. 1989). A related, and equally well-established principle of patent law is that claims "may be broader than the specific embodiment disclosed in a specification." *Ralston-Purina Co. v. Far-mor-Co*, 772 F.2d 1570, 1575, 227 U.S.P.Q. 177, 179 (Fed. Cir. 1985) (*quoting In re Rasmussen*, 650 F.2d 1212, 1215, 211 U.S.P.Q. 323, 326 (C.C.P.A. 1981)). Thus, in order for the Applicants to describe each and every molecule encompassed by the claims, it is not required that every aspect of those nucleic acid molecules be disclosed. *In re Alton*, 76 F.3d at 1175, 37 U.S.P.Q.2d at 1584 (if a person of ordinary skill in the art would, after reading the specification, understand that the inventors had possession of the claimed invention, even if not every nuance, then the written description has been met).

The Examiner cites *Regents of the University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 43 U.S.P.Q.2d 1398 (Fed. Cir. 1997) in support of her proposition that "(a)n adequate written description of a DNA ... 'requires a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention." Office Action at page 27. Further, the Examiner acknowledges that the Applicants need not disclose every species within a claimed genus but states that the Applicants "have provided only a disclosure of a wish to obtain homologues, mutant, allelic, and splice variants of SEQ ID NO: 7212." *Id.* The Examiner, however, mis-interprets the law regarding the written description requirement.

As the Applicants have stated earlier, an adequate written description of a genus of nucleic acids, such as those recited in claims 1 and 8 to 12, may be achieved by either "a recitation of a representative number of [nucleic acid molecules], defined by nucleotide

sequence, falling within the scope of genus or of a recitation of structural features common to the members of the genus." *Eli Lilly*, 119 F.3d at 1568-69, 43 U.S.P.Q.2d at 1406. The feature relied upon to describe the claimed genus must be capable of distinguishing members of the claimed genus from non-members. *Id.* In contrast to the mere name "cDNA" provided in *Eli Lilly*, the Applicants have provided a detailed chemical structure by way of the nucleic acid sequence of SEQ ID NO: 7212, as well as complements and specified variations thereof. The Examiner admits that SEQ ID NO: 7212 meets the written description requirement and that the specification provides the chemical formula of SEQ ID NO: 7212. Office Action at pages 22, 24. This chemical structure clearly distinguishes molecules in the claimed genus from molecules not in the claimed genus. Contrary to the Examiner's contention the disclosure of the nucleic acid sequence of SEQ ID NO: 7212 is not merely a wish to obtain homologues of SEQ ID NO: 7212. The Applicants have described the common structural feature of the claimed nucleic acid molecules and therefore have satisfied the *Eli Lilly* test for written description.

Moreover, the fundamental factual inquiry for satisfying the written description requirement is whether the specification conveys with reasonable clarity to those skilled in the art, as of the filing date sought, that the Applicants were in possession of the invention as now claimed. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 U.S.P.Q. 2d 1111, 1117 (Fed. Cir. 1991). An Applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 U.S.P.Q.2d 1961, 1966 (Fed. Cir. 1997); M.P.E.P. § 2163.02. In light of the disclosure made by the Applicants in the specification one of ordinary skill in the art at the time

the application was filed would have readily recognized that the Applicants were in possession of the invention as claimed.

The specification provides an adequate description of the claimed invention because it demonstrates to one skilled in the art that the Applicants were in possession of the claimed genera of nucleic acid molecules when the application was filed. As admitted by the Examiner, the Applicants have provided a detailed chemical structure of SEQ ID NO: 7212. Nucleic acid molecules falling within the scope of claims 1 and 8 to 12 are readily identifiable and one of ordinary skill in the art can readily identify whether a particular sequence meets the claimed characteristics or not. The fact that the nucleic acid molecules may comprise additional sequences or variations is beside the point. Such modifications are readily envisioned by one of ordinary skill in the art and disclosed throughout the specification. The Examiner states that the specification does not disclose nucleic acid sequences having 90 to 99.9% identity with SEQ ID NO: 7212. Office Action at page 29. However, the Examiner has offered no evidence to demonstrate why one of ordinary skill in the art would reasonably doubt that the Applicants have not adequately described the claimed invention in the present disclosure. Whether or not the genus is large or variable, it shares a common feature that would be recognized by one of ordinary skill in the art.

In conclusion, the Applicants respectfully submit that the specification as originally filed provides sufficient written description for claims 1 and 8 to 12. Therefore, the Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

4. Claim Rejection under 35 U.S.C. § 102:

Claim 1 was rejected under 35 U.S.C. § 102(b) as allegedly "being anticipated by Stratagene Catalog (1997, p. 95)." Office Action at page 30. The Applicants respectfully disagree but in order to advance prosecution, the Applicants have amended claim 1 to replace the phrase "a nucleic acid sequence of SEQ ID NO: 7212 or its complement" with "the nucleic acid sequence of SEQ ID NO: 7212 or its complement" as suggested by the Examiner. Accordingly, the Applicants submit that this rejection is moot and request its withdrawal.

III. CONCLUSION

In view of the foregoing amendments and remarks, the Applicants respectfully submit that the present application is now in condition for allowance, and respectfully request notice of such. The Examiner is encouraged to contact the undersigned at 202-942-5000 if any additional information is necessary for allowance.

Respectfully submitted,

Date: December 7, 2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Andrey A. BOUKHAROV *et al.*
Serial No.: To Be Assigned
Filing Date: October 31, 2000
Title: Plant Genome Sequence and Uses Thereof

Art Unit: To Be Assigned
Examiner: To Be Assigned

Attn: Box Patent Application

Commissioner for Patents
Washington, DC 20231

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Please place the U.S. Patent & Trademark Office receipt stamp hereon to acknowledge receipt of the following:

1. Transmittal Letter to the Commissioner for Patents;
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3. U.S. Utility Patent Application (consisting of 110 pages of description prior to the claims; 1 page of claims (7 claims); and a 1 page abstract);
4. Three (3) CD-ROMs containing the sequence listing – labeled Computer Readable Form, Seq. Listing Copy 1, and Seq. Listing Copy 2;
5. Two (2) CD-ROMs containing Table 1 – labeled Table Copy 1 and Table Copy 2;
6. Statement Regarding Sequence Submission; and
7. Two (2) return postcards.

Return file to: Kathi Moore (411A)